successful. It clearly demonstrates that much can be learned by specifically inhibiting gene expression with antisense oligonucleotides and RNA. Although the potential antiviral activity of these agents is abundantly clear the more basic questions relating to clinical use are less well defined. Ultimately the clinical success of any antisense strategy will depend more on the role of the genes against which they are directed than on the efficacy of the agents themselves.

Bradford W. Ozanne
Robert F. Hennigan

The Metastatic Cell: Behaviour and Biochemistry; By Clive W. Evans; Chapman and Hall. London, 1990; xiv + 555 pages. £47.00. ISBN 0-412-303000.

The task of preparing a 500 page treatise on the life and times of the metastatic cell must have been truly daunting. Yet Clive Evans has succeeded in bringing together in an eminently readable manner the threads of a complex, difficult and rapidly expanding field. The book is divided into six chapters dealing with every major aspect of the metastatic process. Chapter one details the phenotypic characteristic of tumour cells and serves as an excellent introduction to the main thrust of the book, presenting a broad outline of the cell biology of the cancer process. This initial chapter is liberally sprinkled with definitions/explanations of terms commonly used by experimental/clinical oncologist which I am sure will be appreciated by many readers not directly involved in the field, but who wish to learn more about the subject. Sections of this chapter also deal with the classification, grading and staging of tumours, as well as detailed information as to what makes a tumour cell different from a normal cell. Basic differences between the behaviour of malignant and benign tumours are outlined and included in this section is the amazing fact that the largest benign tumour ever removed from a human was 328 lbs weight, a tumour of enormous proportions whose removal must have required surgical skills of Herculean proportions. This piece of 'neoplastic trivia' will surely remain ingrained in my mind for a considerable period of time.

The clarity of style and wit of the author which is allowed to peek through periodically immediately captures and retains the attention of the prospective reader. Sadly many books, written by scientists and clinicians alike, lack clarity of thought particularly as to the best way of imparting their expert knowledge and, alas, humour, no matter how subtle, is generally banished from books on such august subjects. Evans certainly overcomes the former and perhaps editorial direction restrained the latter. Even though the authors literary skills are laudable, the book does not contain one single photomicrograph detailing any aspect of the invasion process, a serious oversight given the topic of the book. In fact diagrammatic presentations are few and far between and the ones contained within the book are singularly uninformative and unattractively drawn. Was any credence given during the preparation of this treatise to the much valued dictum of 'a picture being worth a thousand words', I sadly ask myself.

In his treatment of the invasion process Evans provides much welcome background information on the structure and function of both the vascular and lymphatic systems prior to discussing the mechanisms of tumour spread. He also draws interesting and informative parallels between extravasation of leukocytes seen during an inflammatory response and the invasion of tumour cells. Both systems are quite similar in many respects except one has evolved as a protective element of host defence mechanisms while the other is still one of the outstanding problems for the cancer biologist to solve. He also rightly cautions on the use of over simplified in vitro/in vivo model systems in the study of tumour invasion, particularly in relation to over interpretation of results. One must constantly bear in mind that tumour invasion is simply not the tumour cell pushing its way through artificially generated connective barriers. In the final analysis this book will fulfil the need of an enormous number of people working in the area of tumour biology for it brings together a thorough synthesis of the recent literature in the field. The detailed reference list running to 55 pages attests to the monumental effort put into writing this thoroughly readable book.

Tom Cotter

Peptides as Probes in Muscle Research; Edited by J.C. Rüegg; Springer-Verlag; Berlin, 1991; ix + 174 pages. DM 128.00. ISBN 3-540-53653-1.

Early observations of H.E. Huxley and co-workers that neither the thick not the thin filaments of striated muscle shorten during contraction, led researchers to conclude that the two types of filaments slide past one another during the contractile and relaxation processes. It is now known that the remarkable ability of muscle to pass through cycles of contraction and relaxation is the result of the making and breaking of molecular contacts, so-called cross-bridge formation, between the thick and thin filaments of the acto-myosin system. Cross-bridge formation between the globular heads of myosin of the thick filaments and actin,, tropomyosin and troponin of the thin filaments is fundamental to the sliding process. An important experimental approach to understanding the molecular basis of muscle contraction has been to use synthetic peptides that resemble sequences in the proteins. This monograph brings under one cover 15 short research papers that describe the use of synthetic peptides in probing the amino acid sequences that underpin the contractile process.

The volume begins with two excellent papers that summarize what is known about the structure of actin and the interaction of myosin with actin and troponin (Tn). A historical perspective is given on the extensive synthetic peptide research on muscle